

## CLAIMS

1. A method (200) for automatically establishing an isochronous signal for transmission to a signal receiving device, the method comprising:
  - using a serial bus (80) responsive to a set-top device (10) and a first signal receiving device (12), the serial bus (80) having an architecture defined by an Institute of Electrical and Electronics Engineers ("IEEE")-1394 specification, discovering (202) a signal receiving capability of the first signal receiving device (12); and
  - without user intervention, based on the discovered signal receiving capability, producing (204) an isochronous signal (14) for transmission to the first signal receiving device (12) over the serial bus (80).
2. The method according to claim 1, further comprising:
  - transmitting the produced isochronous signal (14) to the first signal receiving device (12) over the serial bus (80).
3. The method according to claim 1, further comprising:
  - providing the serial bus (80) between the first signal receiving device (12) and a second signal receiving device (302/304); and
  - discovering a signal receiving capability of the second signal receiving device (302/304).
4. The method according to claim 3, wherein the step of producing the isochronous signal (14) for transmission comprises producing the isochronous signal (14) for transmission to one of the first (12) and second (302/304) signal receiving devices.
5. The method according to claim 4, wherein the set-top device (10) supports a single isochronous point-to-point connection on the serial bus (80).

6. The method according to claim 4, further comprising:  
determining which one of the first signal receiving device (12) and the second signal receiving device (302/304) is closest to the set-top device (10), by causing a ping packet to be sent to the first signal receiving device (12) and the second signal receiving device (302/304), and measuring an amount of time it takes for each of the first and second signal receiving devices to return data based on the ping packet; and  
based on the measured amount of time, producing the isochronous signal (14) for transmission to the signal receiving device closest to the set-top device.
7. The method according to claim 1, wherein digital content is transmittable from the set-top device (10) to the first signal receiving device (12) via the serial bus (80), and wherein analog content is transmittable from the set-top device (10) to the first signal receiving device (12) via an analog interface (82).
8. The method according to claim 7, further comprising:  
determining if the first signal receiving device (12) is responsive to the analog interface (82).
9. The method according to claim 8, wherein the step of determining comprises measuring a resistance associated with the analog interface (82).
10. The method according to claim 8, wherein the step of determining comprises assuming the first signal receiving device (12) is not responsive to the analog interface (82).
11. The method according to claim 8, further comprising:  
when the first signal receiving device (12) is not responsive to the analog interface (82), producing a message for transmission to the first signal receiving device over the serial bus.

12. The method according to claim 11, wherein the message comprises an on-screen display of a digital television signal, informing a user that an analog connection between the set-top device (10) and the first signal receiving device (12) is desirable.

13. A computer-readable storage medium (64) encoded with a computer program (22) which, when loaded into a processor (39), implements the method of claim 1.

14. An apparatus for automatically establishing an isochronous signal (14) for transmission to a signal receiving device (12), the apparatus comprising:

a computer-readable storage medium (64); and

a processor (39) responsive to the computer-readable storage medium (64) and to a computer program (22), the computer program (22), when loaded into the processor (39), operative to perform a method (200) comprising:

using a serial bus responsive to a set-top device and the signal receiving device, the serial bus having an architecture defined by an IEEE-1394 specification, discovering (202) a signal receiving capability of the first signal receiving device; and

without user intervention, based on the discovered signal receiving capability, producing (204) an isochronous signal for transmission to the signal receiving device over the serial bus.

15. A set-top device (10) for use within a broadband communications system, comprising:

an interface (61) to a serial bus (80), the serial bus (80) responsive to a signal receiving device (12) and having an architecture defined by IEEE-1394 specification;

a processor (39);

a computer readable storage medium (64) encoded with a computer program (22) which, when loaded into the processor (39), is operative to perform a method (200) comprising:

discovering (202) a signal receiving capability of the signal receiving device; and

without user intervention, based on the discovered signal receiving capability, producing (204) an isochronous signal for transmission to the signal receiving device via the interface to the serial bus.

16. The set-top device (10) according to claim 15, wherein the set-top device (10) comprises one of a cable set-top device and a terrestrial set-top device.

17. The set-top device (10) according to claim 16, wherein the isochronous signal (14) comprises a displayable digital television signal.

18. The method according to claim 17, wherein the displayable digital television signal comprises one of an on-screen display and a signal for recording by a recording device.

19. The set-top device (10) according to claim 16, wherein the signal receiving device (12) comprises one of a display device; a digital video cassette recorder; a hard disk drive; a digital video camera recorder; and a digital video disk recorder.

20. The set-top device according to claim 19, wherein the broadband communications system comprises a cable television system.